

CLAIMS

1. A process for the preparation of monochloroacetic acid from chlorine
5 and acetic acid in the presence of a catalyst by reactive distillation.
2. A process according to claim 1 wherein a reactive distillation
apparatus is used, the apparatus comprising a reactive distillation
column comprising at least one column internal, which column is on
10 one side connected to a cooler unit and on the other side connected
to a reboiler, and which apparatus is provided with a first inlet for
supplying chlorine, a second inlet for supplying acetic acid, a third inlet
for supplying the catalyst, a first outlet for removing the MCA-
containing product, and a second outlet for recovering the catalyst,
15 whereby the first inlet and the outlet are positioned closer to the
reboiler than the second and the third inlets, and whereby the second
outlet is connected to the cooler unit; the process comprising the
steps of supplying chlorine via the first inlet, supplying acetic acid via
the second inlet, supplying the catalyst via the third inlet, recovering
20 the catalyst via the second outlet, and removing the MCA-containing
product via the first outlet.
3. A process according to any one of claims 1 and 2 wherein the catalyst
is acetyl chloride.
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4. A process according to any one of the preceding claims wherein the
applied pressure is at least $0.5 \cdot 10^5$ and at most $10 \cdot 10^5$ Pa.
5. A process according to any one of the preceding claims wherein the
30 mass ratio of chlorine to acetic acid is at least 0.1 and at most 2.0.

6. A process according to any one of the preceding claims wherein the mass ratio of acetic anhydride to acetic acid is at least 0.0001 and at most 0.25.
- 5 7. A process according to any one of the preceding claims wherein the column internal is a tray, whereby the number of trays is at least 1 and at most 80.
- 10 8. A process according to any one of the preceding claims wherein the liquid residence time in the reactive distillation column is at least 0.1 and at most 5 hours.
- 15 9. A process according to any one of claims 2-8 wherein the second inlet is positioned close to the cooler unit.
10. A process according to any one of the preceding claims wherein the process is conducted continuously.
- 20 11. A process according to any one of the preceding claims wherein a diluting gas is added, the diluting gas being selected from the group consisting of hydrochloric acid, an inert gas such as nitrogen or helium, or a mixture thereof.